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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JACOBSON, MICHELE LYNN

ART UNIT

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1794

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,319	Applicant(s) ADAMS ET AL.	
	Examiner MICHELE JACOBSON	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-20 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/26/08</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-12 and 14-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Independent claims 1 and 16 recite sub-layers having a woven polymer mesh disposed in between one or more outer layers. However, it is impossible for the polymer mesh to be in between a single outer layer, since there would not be two outer layers present to sandwich the sub-layer. Since it is unclear what was meant by applicant's recitation, the sub-layer structure recited will be interpreted to comprise at least one "outer layer" and a polymer mesh layer. Claims 2-12, 14 and 15 and 17-20 are rejected as being dependent from indefinite claims 1 and 16. Appropriate clarification is required.

4. Claim 15 recites the limitation "the outer layer". There is insufficient antecedent basis for this limitation in the claim. Claim 1, from which claim 15 depends recites one or more outer layers and does singularly recite "an outer layer". In addition, claim 1 recites that the polymer mesh is "in between one or more outer layers", therefore, the recitation of a singular outer layer would not provide the structural limitation of the polymer mesh being "in between" outer layers. For the purpose of examination claim 15

Art Unit: 1794

will be interpreted to include the limitation wherein at least one of the outer layers is polypropylene. Appropriate clarification is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 7-9, 11, 12, 15, 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by De Meyer et al. U.S. Patent No. 6,460,575 (hereafter referred to as De Meyer).

7. De Meyer teaches a thermoplastic pipe having at least two distinct layers of polymeric material and at least one layer of textile reinforcement material sandwiched between the polymeric layers. (Col. 3, lines 1-5) The polymer materials recited to be preferred are polyolefins such as polypropylene and polyethylene. (Col. 3, lines 34-36) For thin-walled low pressure pipes typical wall thicknesses for the pipes are recited to be anywhere from about 4 to about 15 mm. (Col. 5, lines 58-60) The textile reinforcement material may comprise fibers such as polymeric materials like polyester, polyamide, polyaramid, polyimide and polyolefin. (Col. 7, lines 8-11) The textile reinforcement layer is recited to desirably be in mesh form and exhibit open spaces between the constituent fibers that are large enough to permit a portion of the heated

Art Unit: 1794

liquid outer thermoplastic layer to adhere to the inner thermoplastic layer. (Col. 8, lines 30-32)

8. Regarding claims 1, 15 and 16: De Meyer anticipates the multilayer tube comprised of a polymer mesh disposed between two layers of polypropylene or polyethylene claimed in claims 1, 15 and 16.

9. Regarding claims 7 and 19: De Meyer clearly recites that the thermoplastic material is intended to impregnate the mesh of the textile reinforcement. Therefore, the outer layers are bonded to the textile reinforcement via the intermediate polyethylene layer of the impregnated reinforcement material.

10. Regarding claims 8, 9, 11 and 12: Although De Meyer does not recite the intended use limitation of a concrete column form or roll core, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Any tubular structure such as the pipe disclosed by De Meyer could be used as a concrete column form or as a core to receive something rolled around it and therefore the structure of De Meyer reads on the claimed invention. De Meyer recites a 4 mm thick pipe which reads on the multilayer tube having a thickness of greater than 2.5 mm and less than 5 mm claimed in claims 8, 9, 11 and 12.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-12, 14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weekers U.S. Patent No. 5,328,142 (hereafter referred to as Weekers) and Fyfe U.S. Patent No. 6,295,782 (hereafter referred to as Fyfe).

13. Weekers teaches a spirally wound kraft paper tube for use in concrete column forming comprising at least one wound layer of water impermeable plastic film intermediate the paper layers. (Col. 1, lines 36-45) Each of the paper layers has a thickness preferably less than 0.5 mm. (Col. 2, lines 56-57) The plastic layer maybe a polyethylene film not greater than 0.3 mm thick with the overall thickness of the tube wall preferably between 0.5 and 3 mm. (Col. 2, lines 57-66) The polyethylene plastic layer renders the wall of the tube substantially impervious to the passage of water. (Col. 2, line 67-Col. 3, line 3)

14. Weekers acknowledges that in view of the thin, flexible nature of the walls of the tube, it may not have sufficient integrity to be self-supporting in the case of relatively long tubes. Specifically, long tubes may tend to bulge, particularly at the bottom of the tube, from the weight of the concrete. To alleviate this problem, Weekers suggests using an additional split support tube held together with wires or bands which closely surround and support the forming tube. (Col. 3, line 61-Col. 4, line 9)

Art Unit: 1794

15. Weekers is silent regarding disposing a polymer mesh in between the paper and polyethylene layers.

16. Fyfe teaches a concrete forming tube comprising a composite shell made by spirally winding resin impregnated fabric layers around a liner. (Col. 2, lines 1-5) The fabric may comprise fibers such as polymeric materials like polyaramid, Kevlar, polyethylene and aramid. (Col. 4, lines 1-2) The number of warp yarns per inch is preferably between about 5 and 20 and the number of fill yarns per inch is preferably between about 0.5 and 5. (Col. 4, lines 27-30) The fabric layers are recited to be impregnated with resin in order to function properly. The resin matrix selected must be tough and waterproof. (Col. 5, lines 25-34) The liner material utilized is formed of water-resistant and impermeable material to protect the concrete core from moisture and corrosive materials as well as to protect the composite shell from the alkalinity in the concrete core. (Col. 6, lines 1-4) Polyethylene is recited as a suitable liner material. (Col. 6, lines 5-6)

17. Both Weekers and Fyfe are directed towards concrete forming tubes comprising waterproof polyethylene layers that provide a means for supporting the concrete forming tube. Fyfe solves the problem of bulging of the concrete forming tube disclosed by Weekers by providing a resin impregnated wrapped textile reinforcement layer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have employed a resin impregnated textile reinforcement layer such as that disclosed by Fyfe in the invention of Weekers in order to provide structural reinforcement to the tube disclosed by Weekers and to solve the problem of the

Art Unit: 1794

concrete forming tube bulging at the bottom. One of ordinary skill would have disposed the textile layer between the polyethylene and paper layers recited by Weekers since the polyethylene layer must necessarily be disposed on the interior of the tube to provide the function of protecting the concrete from water and protecting the forming tube from alkalinity as disclosed by Weekers and Fyfe respectively.

18. Regarding claims 1, 2, 14 and 16-18: The obvious production of a concrete forming tube by spirally winding a laminate comprising a kraft paper layer, a resin impregnated textile layer having a thread density as recited by Fyfe and a polyethylene layer would have produced the same invention as claimed in claims 1, 2, 14 and 16-18. Regarding the thread density claimed, in the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990)

19. Regarding claims 3 and 20: It would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected grammage weights and tensile strength of the materials used that would be appropriate for the concrete forming tube application. The obvious selection of materials of appropriate strength would have produced the same invention as claimed in claims 3 and 20.

20. Regarding claims 4, 7 and 19: Neither Weekers or Fyfe specifically disclose HDPE, however, HDPE is a universally known species of the genus polyethylene and is not interpreted to be patentably distinct from the generic disclosure of polyethylene in both Weekers and Fyfe. Fyfe discloses that the resin for the fabric layer must be tough

Art Unit: 1794

and waterproof and both Weekers and Fyfe employ polyethylene as a waterproof material that must be tough to be in contact with the concrete used in the forms. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized polyethylene or HDPE as the resin for impregnating the fabric layer since polyethylene is both tough and waterproof. Such a laminate would comprise a paper layer a sub-layer comprising a fabric layer impregnated (or in between and bonded to) two outer layers of polyethylene or HDPE and a polyethylene layer. A tube formed by spirally winding this laminate would have been the same as the invention claimed in claims 4, 7 and 19.

21. Regarding claims 5 and 6: A tube formed by spirally winding the laminate suggested above to form a multilayer tube (such as 4-5 layers disclosed by Weekers). In such a multilayer tube, the polymer fabric layer would be disposed between different layers of kraft paper since the laminate would be overlapping itself. Such a tube is interpreted to read on the sub-layer having each of the outer layers be kraft paper as claimed in claim 5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected grammage weights for the kraft paper used that would be appropriate for the concrete forming tube application. The obvious selection of materials of appropriate strength would have produced the same invention as claimed in claim 6.

22. Regarding claims 8-12: It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the tube produced by the combination of Weekers and Fyfe whatever thickness was necessary for the application

Art Unit: 1794

the tubing was used for. The thickness of the tube is a result effective variable that controls the strength of the tube. This obvious optimization of the thickness of the tubing would have produced tubes with the same thicknesses claimed in claims 8-12 for use as concrete column forms. Although Weekers and Fyfe do not recite the intended use limitation of a roll core, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Any tubular structure such as the tubes disclosed by Weekers and Fyfe could be used as a core to receive something rolled around it and therefore the structure produced by the combination of Weekers and Fyfe reads on the invention claimed in claim 12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELE JACOBSON whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Thursday 8:30 AM-7 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571)272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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